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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/308,515	08/11/1999	ROBERT PAUL BLACK	THOM-0007	6283

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EXAMINER

BOYD, JENNIFER A

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/308,515

Applicant(s)

BLACK, ROBERT PAUL

Examiner

Jennifer A. Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The Applicant's Amendments and Accompanying Remarks, filed May 25, 2005, have been entered and have been carefully considered. Claims 1 and 11 – 12 are amended, claim 3 is cancelled and claims 1 – 2 and 4 – 12 are pending. In view of Applicant's amendment to claims 1 and 11 – 12 requiring that the cellulosic fiber obtained by an organic spinning process is lyocell, the Examiner withdraws the rejections as detailed in Office Action dated January 27, 2005. It should be noted that the rejection as being unpatentable over Pedler in view of Gannon has been maintained. The invention as currently claimed unpatentable for reasons herein below.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

3. Claim 2 is objected to because of the following informalities: "polyethylene terephthalate" is misspelled. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 4 – 7 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 4 – 7 and 10 recite the limitation "cellulosic fiber". There is insufficient antecedent basis for this limitation in the claim. Please amend the claims to read "lyocell fiber".

Claim Rejections - 35 USC § 103

7. Claims 1, 4 - 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pedler (GB 1,370,296) in view of Gannon et al. (US 5,725,821).

Pedler is directed to a non-woven fibrous material pad and method of manufacture (Title).

As to claim 1, Pedler teaches that the non-woven fibrous material pad may be used as padding or insulation in upholstery or clothing (page 2, lines 25 – 40). Pedler teaches that the non-woven fibrous material can comprise a suitable man-made or synthetic fiber, such as, for example, polyester, acrylic, modacrylic, triacetate or rayon fiber or a *mixture* of such fibers (page 2, lines 40 – 47). Therefore, it is the position of the Examiner that the non-woven material, in one embodiment, can comprise a mixture of polyester fibers and rayon fibers

As to claims 8 and 10, Pedler teaches that the polyester fiber and the rayon fiber may be crimped (page 2, lines 70 – 90). As saw-tooth crimping is the most common form of crimped fibers, the Examiner equates Applicant's "saw-toothed crimp fiber" to the crimped fiber of Pedler.

Pedler teaches the claimed invention above but fails to disclose the use of lyocell.

Gannon is directed to the process of manufacture of lyocell fiber (Title). Gannon teaches that the lyocell fiber produced by the process of the invention is useful in the manufacture of non-woven articles either alone or in blends with other types of fiber (column 3, lines 44 – 46). Gannon teaches that non-woven fabrics containing lyocell can be used for applications such as interlinings and apparel fabrics (column 4, lines 40 – 45). (column 4, lines 40 – 45). Gannon teaches that it is known in the art that lyocell fibers are known for their impressive textile-physical properties, such as tenacity, in comparison with fibers such as viscose rayon fibers (column 1, lines 25 – 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use lyocell fibers as suggested by Gannon in place of the rayon fibers of Pedler motivated by the desire to use fibers with improved physical properties such as tenacity in comparison with fibers such as viscose rayon. It should be noted that tenacity directly relates to strength; high strength is desirable in non-woven articles for durability and other physical properties.

As to claims 4 – 7, Pedler in view of Gannon discloses the claimed invention except for that the non-woven blend comprises no more than 80% cellulosic fiber as required by claim 4, the non-woven blend comprises 10 – 60% of cellulosic fiber as required by claim 5, the non-woven blend comprises 20 – 60% of cellulosic fiber as required by claim 6 and the non-woven blend comprises 25 – 60% of cellulosic fiber as required by claim 7. It should be noted that the

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proportion of cellulosic fiber is a result effective variable. As the amount of cellulosic fiber increases, the non-woven fabric will as a whole possess properties similar to cellulose and if the cellulosic fiber content decreases, the non-woven fabric will behave less like the cellulosic fiber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a non-woven blend which comprises no more than 80% cellulosic fiber as required by claim 4, the non-woven blend comprises 10 – 60% of cellulosic fiber as required by claim 5, the non-woven blend comprises 20 – 60% of cellulosic fiber as required by claim 6 and the non-woven blend comprises 25 – 60% of cellulosic fiber as required by claim 7 since it has been held that where general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 220 F.2d 454 USPQ 233 (CCPA 1955). In the present invention, one would have been motivated to optimize the amount of cellulosic fiber in order to create a fabric that has optimal loft and other properties making it suitable for a padding or insulation material.

8. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pedler (GB 1,370,296) in view of Gannon et al. (US 5,725,821) as applied above, and further in view of Kwok (US 5,023,131).

Pedler in view of Gannon teaches the claimed invention above but fails to disclose that the polyester filling fiber is a polyethylene terephthalate fiber as required by claim 2. Additionally, Pedler fails to teach that the polyester fiber comprises a conjugate fiber as required by claim 9.

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Kwok is directed to a cotton/polyester fiber blend and batt (Title) useful for fiberfill, insulation, padding, resilient cushioning and the like (column 3, lines 54 – 55). Kwok teaches that the batt of the invention exhibits excellent washability and high strength (column 3, lines 55 – 60). Kwok teaches the use of cotton in a blend with other fibers including copolyester binder fibers (column 2, lines 5 – 10). Kwok teaches that the copolyester fiber can comprise units of ethylene terephthalate (column 1, lines 55 – 60) as required by claim 2. Kwok teaches that the copolyester fiber can be in sheath-core form or other bicomponent configurations (column 3, lines 1 – 25). Kwok teaches that for the purposes of the invention cotton can also mean wood pulp and regenerated cellulose such as rayon (column 2, lines 18 – 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use polyethylene terephthalate fiber as the polyester filling fiber as suggested by Kwok in the pad of Pedler in view of Gannon motivated by the desire to create a bonded pad which exhibits excellent washability and high strength.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use conjugate polyester fibers as the polyester filling fiber as suggested by Kwok in the pad of Pedler in view of Gannon motivated by the desire to bond the pad within a desired temperature range provided by the sheath component while maintaining pad integrity and strength provided by the core component.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Donovan et al. (US 4,992,327) in view of Gannon et al. (US 5,725,821).

Donovan is directed to synthetic down (Title). Donovan teaches a thermal insulating

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material comprising macrofibers and microfibers (column 2, lines 5 – 20). The microfibers and macrofibers may be selected from polyester, rayon and other fibers (column 2, lines 30 – 40). Therefore, in one embodiment, the microfibers could comprise polyester and the macrofibers could comprise rayon. Donovan teaches that the assemblage of the macrofibers and microfibers may in the form of clusters or balls (column 4, lines 30 – 40). The Examiner equates the clusters or balls to Applicant's "non-woven blend" of fiberballs.

Donovan teaches the claimed invention above but fails to disclose the use of lyocell.

Gannon is directed to the process of manufacture of lyocell fiber (Title). Gannon teaches that the lyocell fiber produced by the process of the invention is useful in the manufacture of non-woven articles either alone or in blends with other types of fiber (column 3, lines 44 – 46). Gannon teaches that non-woven fabrics containing lyocell can be used for applications such as interlinings and apparel fabrics (column 4, lines 40 – 45). Gannon teaches that it is known in the art that lyocell fibers are known for their impressive textile-physical properties, such as tenacity, in comparison with fibers such as viscose rayon fibers (column 1, lines 25 – 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use lyocell fibers as suggested by Gannon in place of the rayon fibers of Donovan motivated by the desire to use fibers with improved physical properties such as tenacity in comparison with fibers such as viscose rayon. It should be noted that tenacity directly relates to strength; high strength is desirable in non-woven articles for durability and other physical properties.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok (US 5,023,131) in view of Gannon et al. (US 5,725,821).

Kwok is directed to a cotton/polyester fiber blend and batt (Title) useful for fiberfill, insulation, padding, resilient cushioning and the like (column 3, lines 54 – 55). Kwok teaches the use of cotton in a blend with other fibers including copolyester binder fibers (column 2, lines 5 – 10). Kwok teaches that for the purposes of the invention cotton can also mean rayon (column 2, lines 18 – 20). The Examiner equates the copolyester binder fibers to Applicant's "polyester filling fiber". Kwok teaches that typically the batt will be formed from several layers of card-formed web of the blend, by crosslapping the web on a moving apron to the batt thickness desired (column 3, lines 25 – 30).

Kwok teaches the claimed invention above but fails to disclose the use of lyocell.

Gannon is directed to the process of manufacture of lyocell fiber (Title). Gannon teaches that the lyocell fiber produced by the process of the invention is useful in the manufacture of non-woven articles either alone or in blends with other types of fiber (column 3, lines 44 – 46). Gannon teaches that non-woven fabrics containing lyocell can be used for applications such as interlinings and apparel fabrics (column 4, lines 40 – 45). Gannon teaches that it is known in the art that lyocell fibers are known for their impressive textile-physical properties, such as tenacity, in comparison with fibers such as viscose rayon fibers (column 1, lines 25 – 30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use lyocell fibers as suggested by Gannon in place of the rayon fibers of Kwok motivated by the desire to use fibers with improved physical properties such as tenacity in comparison with fibers such as viscose rayon. It should be noted that tenacity directly relates to strength; high strength is desirable in non-woven articles for durability and other physical properties.

Response to Arguments

11. Applicant's arguments filed May 25, 2005 have been fully considered but they are not persuasive.

Applicant argues that the blend of polyester and lyocell produce a synergistic and very unexpected effect. Any differences between the claimed invention and the prior art may be expected to result in some differences in properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant indicates that lyocell would not be an obvious choice for padding, stuffing, filling, fiberballs or wadding because the fibers tend to be flat. The Examiner submits that lyocell has many improved properties when compared to rayon so it would be an obvious choice to replace rayon with lyocell. Furthermore, certain known processing techniques could crimp or create a non-flat fiber. Furthermore, the limitation of "padding, stuffing or filling" does not preclude the use of a flat fiber because those terms do not require a certain thickness or loft. The Applicant indicates that the resultant thermal efficiency of the two fibers is greater than the sum of the two components. Applicant has failed to provide data to

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support this argument. Additionally, the Applicant has not claimed a required a certain level of thermal efficiency in the claims. The Examiner highly suggests to the Applicant to submit a 37 CFR 1.132 Declaration to establish unexpected results.

Applicant argues that the use of lyocell in the interlining of Gannon does not provide motivation to use lyocell in the padding of Pedler and that Gannon and Pedler are non-analogous art. The Examiner submits that Applicant's claim 1 requires a generic "padding, stuffing or filling". According to Fabriclink, the definition of interlining is "an insulation, padding or stiffening fabric, either sewn to the wrong side of the lining or inner side of the outer shell fabric". It should be noted that according to the definition, interlining can serve as a padding and also it "fills" the area between the fabric layers. Thus, Pedler and Gannon are analogous art. If the Applicant requires that the padding, stuffing or filling has certain properties, i.e. a certain level of loft, which would differentiate the material from the interlining of Gannon, the Applicant should amend the claims accordingly.

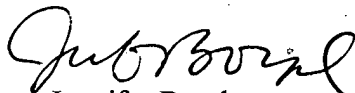
Applicant argues that it is unclear why it would have been obvious to one of ordinary skill in the art to replace the rayon fibers of Pedler with the lyocell fibers of Gannon. The Examiner indicated that the motivation to replace the fibers is to improve tenacity. It is known in the art that tenacity is directly related to strength. In applications such as padding, interlining and filling, high strength is desirable to increase durability of the product.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jennifer Boyd
July 15, 2005


Ula C. Ruddock
Primary Examiner
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